

WSDOT Aviation Division:
**Unmanned Aircraft
Systems**

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Outline

- Overview of UAS
- FAA Program Approach
- Implementation Questions
- Innovative Applications
- WSDOT Aviation Approach



UAS Definitions

An Unmanned Aerial Vehicle (UAV) or Unmanned Aircraft System (UAS) is commonly known as a drone and referred to as a Remotely Piloted Aircraft (RPA) by the International Civil Aviation Organization (ICAO).



A UAS is an aircraft without a human pilot aboard. Its flight is controlled either autonomously by onboard computers or by the remote control of a pilot on the ground or in another vehicle.



UAS Overview

- The military role of unmanned aircraft systems is unprecedented. In 2005, tactical- and theater-level unmanned aircraft alone flew over 100,000 flight hours in support of Operation Enduring Freedom and Operation Iraqi Freedom.
- Rapid advances in technology are enabling more and more capability to be placed on smaller airframes, spurring a large increase in the number of Small Unmanned Aircraft Systems (SUAS).





UAS Overview

The Federal Aviation Administration has adopted the name unmanned aircraft (UA) to describe aircraft systems without a flight crew on board. More common names include UAV, drone, remotely piloted vehicle (RPV), remotely piloted aircraft (RPA), and remotely operated aircraft (ROA).



Unmanned aircraft may be flown in the National Airspace System when flown solely for recreation and sport purposes (RC hobby aircraft).





FAA Program Approach

- In 2012 Congress passed the FAA Modernization and Reform Act, Public Law 112-95, which mandated the creation and publication of a five-year UAS Roadmap.
- The FAA issued “The Integration of Civil Unmanned Aircraft Systems (UAS) in the National Airspace System (NAS) Roadmap” and created the Unmanned Aircraft Systems Integration Office to facilitate integration of UAS safely and efficiently into the NAS.
- The FAA program will develop regulations, policy, procedures, guidance material, and training requirements to support safe and efficient UAS operations in the NAS.



UAS Implementation Questions

- How will UAS impact public privacy?
- How will UAS affect airspace safety?
- How will UAS affect airport operations?
- Who will monitor and regulate UAS activities?
- How will private industry influence UAS technologies?
- What is the state's role?





Innovative UAS Applications

- **Remote sensing:** electromagnetic spectrum sensors, gamma ray sensors, biological sensors, and chemical sensors
- **Commercial aerial surveillance:** livestock monitoring, wildfire mapping, pipeline security, home security, road patrol, and anti-piracy.
- **Commercial and motion picture filmmaking**
- **Sports photography and cinematography**
- **Domestic policing**
- **Disaster relief:** transport of medicines and vaccines and retrieve medical samples, into and out of remote or otherwise inaccessible regions.
- **Scientific research:** penetrating areas that may be too dangerous for manned aircraft.
- **Search and rescue**
- **Maritime patrol**
- **Forest fire detection**
- **Military applications**





WSDOT Aviation Approach

- Actively monitoring the evolution of UAS technological development and commercial application.
- Teaming with UAS developers and airport sponsors.
- Aviation System Plan will examine several facets of Unmanned Aircraft use in Washington state.



Follow-up Discussion

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